STONE, DIMENSION

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Dimension stone is a natural rock material quarried for the purpose of obtaining blocks or slabs that meet specifications as to size (width, length, and thickness) and shape (Barton, 1968, p. 4). Color, grain texture and pattern, and surface finish of the stone also are normal requirements by both customers and the stone industry. Durability (essentially based on mineral composition, hardness, and past performance), strength, and the ability of the stone to take a polish are other important selection criteria.

Although various igneous, metamorphic, and sedimentary rocks are used as dimension stone, the principal rock types are granite, limestone, marble, sandstone, and slate. Other varieties of dimension stone that are normally considered to be special minor types include alabaster (massive gypsum) and soapstone (massive talc).

Trade data in this report are from the U.S. Census Bureau. All percentages in the report were computed using unrounded data.

U.S. production of dimension stone in 2004 was estimated to be 1.46 million metric tons (Mt) valued at $281 million, which was about a 4.8% increase in value compared with that of 2003 (table 1). U.S. production tonnage of dimension stone in 2004 increased by about 9% compared with that of 2003. Exports increased slightly in value to $63.7 million, and imports for consumption increased by about 29% in value to about $1.8 billion. The value of apparent consumption was estimated to be $2 billion.

In recent years, most dimension stone has been used in construction applications with the largest portions being sold or used as ashlars and partially squared pieces, curbing, flagstone, and rough block for building and construction. Monumental stone, another major type, includes memorials of various kinds.

Dimension stone production data for the United States are derived by the U.S. Geological Survey (USGS) from a voluntary canvass of U.S. quarry producers of rough and dressed dimension stone. Of the 211 dimension-stone-producing operations included in the survey for 2004, 109 (52%) responded, which represented 66% of the tonnage; the remaining tonnage was estimated based partly on prior years' reporting (table 1). Data in this report cover rough crude quarried stone, irregular-shaped and rectangular blocks, and more highly processed stone. A number of other terms also are used to describe further processing, such as "worked," "dressed," "finished," and "manufactured." These and other terms used by the dimension stone industry describe such features as the mineral composition of the rock, the shape of the product, the method of finishing a stone, and the type of finish applied (Stone World, 2004, p. 170-184). No adjustments are made in the data to account for the sometimes substantial losses in processing rough stone into dressed stone. Sold or used data are considered to be equivalent to production because changes in stocks are not surveyed.

Description and Terminology

Scientific and commercial descriptions of various dimension stone types overlap. The scientific description of dimension stone types is focused primarily on the stone's geographic locality and mineralogical composition, whereas the commercial description is focused primarily on the locality and color of the stone. Furthermore, various combinations of the scientific and commercial descriptions are used by stone producers to market their stone products effectively. The descriptions that follow were adapted from Currier (1960, p. 1-10) and Barton (1968, p. 2-8).

Granite.—Commercial granites include all feldspathic crystalline rocks of mainly interlocking texture and with individual mineral grains that are visible to the naked eye. This category includes such rock types as anorthosite, gneiss, granite, granodiorite, monzonite, syenite, and all other intermediate igneous and coarse-grained metamorphic rock types. Primary colors of commercial granites are white, gray, pink, and red; green and brown are secondary colors. Although black granites are also included in this category and range in color from dark gray to black, they are not true granites mineralogically but rather mafic rocks, such as diabases, diorites, gabbros, and similar rocks.

Limestone.—Commercial limestones are rocks of sedimentary origin that primarily are composed of calcium carbonate with or without magnesium. Included in this category are calcitic limestone, dolomite, dolomitic limestone, and travertine, which is a calcitic rock that is precipitated from hot springs.

Marble.—Commercial marble includes metamorphosed limestones and serpentine rocks, all of which are capable of taking a polish. An important member of this classification is serpentine marble, which is also known as verde antique, and comprises green-to-black serpentine, which is a hydrous magnesium silicate mineral that is crisscrossed by veins of lighter minerals, such as calcite or dolomite.

Sandstone.—Commercial sandstone is a lithified sand that comprises chiefly quartz or quartz and feldspar with a fragmental (clastic) texture. Sandstone contains interstitial cementing materials, such as calcite, clay, iron oxides, or silica. Arkose (abundant feldspar grains), graywacke (abundant angular rock fragments), and conglomerate (abundant rounded rock fragments) are included in this category. Other members of this category include bluestone, which is a dense, hard, fine-grained feldspathic sandstone that splits easily along planes into thin, smooth slabs; brownstone, which is feldspathic sandstone of brown to reddish-brown color owing to abundant iron oxide; and flagstone, which is a sandstone, or sandy slate, typically red, tan or gray, that splits into large, thin slabs.

Slate.—Commercial slate is a microgranular metamorphic rock formed by the recrystallization of clay sediments, such as claystone, shale, or siltstone. Characterized by excellent parallel cleavage, slates may be easily split into relatively thin slabs.

Greenstone.—Commercial greenstones are the result of the metamorphosis of basaltic rocks. Greenstone is named because of the predominance of greenish minerals, such as actinolite, chlorite, or epidote.

Basalt and Traprock.—Commercial basalt and traprock includes igneous rocks that are too fine grained to be termed "black granite." The name traprock is derived from the Swedish word "trappa," which means step, because of the characteristic terraced or steplike appearance of certain basalt lava fields. This category includes extrusive igneous rocks, such as andesite, basalt, or dacite, and intrusive igneous rocks, such as amphibolites, diabase, diorites, fine-grained gabbros, peridotites, and pyroxenites.

Miscellaneous.—This category includes commercial dimension stone types that do not easily fall into the aforementioned categories, such as soapstone, steatite, or talc, which contain various amounts of the mineral talc. Additional miscellaneous dimension stones include diatomite, mylonite, pumice, schist, tripoli, tuff, porous or scoriaceous volcanic rocks, or any other rocks used as building stones.

Production

Rough stone blocks split or cut from a quarry face are transported to processing plants that are typically located at the quarry site, at least for preliminary sizing. Further dressing, which includes final sizing and finishing operations, such as decorating, edging, and polishing, also may be done at the quarry site.

In 2004, limestone accounted for 564,000 metric tons (t) (39%) of the total domestic dimension stone production of 1.46 Mt, followed by granite (29%), sandstone (14%), marble (7%), miscellaneous stone (10%), and slate (1%). Granite accounted for about $108 million (39%) of the value of total domestic production of $281 million, followed by limestone (34%), sandstone (9%), miscellaneous (7%), marble (6%), and slate (5%).

Production was reported in 34 States and Puerto Rico. Leading producer States, in descending order by tonnage, were Indiana, Wisconsin, Georgia, Vermont, and Massachusetts. These States accounted for 55% of the domestic production. The leading producer States, in descending order by value, were Indiana, Vermont, Wisconsin, Georgia, and North Carolina. These States contributed about 50% of the value of domestic production (table 3).

The top five producing companies were Buechel Stone Corp. in Wisconsin; Rock of Ages Corp. in Vermont, North Carolina, and Pennsylvania; Indiana Limestone Co. Inc. in Indiana; Georgia Marble (a subsidiary of Polycor Inc.) in Georgia; and Fletcher Granite Co., Inc. in Massachusetts, Maine, and New Hampshire. These companies produced about 37% of domestic production in tonnage and about 27% of production value. The leading 14 companies accounted for 65% of total domestic tonnage and 59% of the value.

Granite.—Dimension granite was produced by 33 companies operating 57 quarries in 17 States. Production was 429,000 t valued at $108 million. Granite production tonnage decreased by 7.3%, and the value decreased by 3.5% compared with those of 2003. The top five producing States, in descending order by tonnage, were Massachusetts, Georgia, Vermont, South Dakota, and New Hampshire. Massachusetts accounted for 19% of the tonnage of U.S. granite production. Massachusetts and Georgia combined accounted for about 20% of the value of the U.S. granite production (table 4).

Cold Spring Granite, Inc., Fletcher Granite, and Rock of Ages, which were the leading producers, accounted for 54% of U.S. granite production in tonnage and 55% of U.S. granite production in value.

Limestone.—Dimension limestone was produced by 28 companies from 33 quarries in 9 States. Production increased by about 51% to 564,000 t from 373,000 t in 2004, and the value increased by about 29% to $95 million from $73.7 million in 2004. The top five producing States, in descending order by tonnage, were Indiana, Wisconsin, Texas, Minnesota, and Oklahoma. Indiana produced 44% of the U.S. tonnage and 48% of the value (table 5). Buechel Stone, Elliott Stone Co., Featherlite Corp., Independent Limestone Co., and Indiana Limestone, which were the leading producers, accounted for 74% of all U.S. limestone tonnage and about 59% of the value.

Sandstone.—Dimension sandstone was produced by 23 companies that operated 26 quarries in 15 States. Production increased by about 18% to 208,000 t in 2004 from 176,000 t in 2003. The value increased by about 8% to $24.7 million in 2004 from $22.8 million in 2003. The top five producing States, in descending order by tonnage, were Arizona, New York, Ohio, Colorado, and Arkansas (table 6).

American Sandstone, Finger Lakes Stone Co. Inc., Hackett Quarry Co., Loukonen Brothers Stone Co., and Waller Brothers Stone Co., which were the leading producers, accounted for about 74% of the tonnage and 60% of the value of domestic production.

Marble.—Marble was mined by six companies that operated eight quarries in five States. Production increased in 2004 to 98,700 t valued at $16.1 million from 60,500 t valued at $18.4 million in 2003 (table 10). Georgia was the leading producing State, followed by Vermont, Colorado, Tennessee, and Alabama. The leading producers were Colorado Stone Quarries, Georgia Marble, and Vermont Quarries Co. Additional data have been withheld to avoid disclosing company proprietary information.

Slate.—Slate was produced by 12 companies that operated 16 quarries in 5 States. Production increased to 19,600 t in 2004 from 18,500 t in 2003. The value increased to $13.7 million in 2004 from $11.2 million in 2003 (table 12). The top producing States were Vermont, Pennsylvania, and New York. The leading producers were Quarry Slate Industries Inc.; U.S. Quarried Slate Products Inc.; and Williams and Sons Slate and Tile Inc. Additional data have been withheld to avoid disclosing company proprietary information.

Consumption

Rough stone represented about 61% of the tonnage and 45% of the value of all dimension stone sold or used by domestic producers, which included exports. The leading uses of rough stone, by tonnage, were in construction (47%) and other uses, which included flagging, exports, and unlisted and unspecified uses (29%). Dressed stone represented 39% by tonnage and 55% by value of the total stone sold or used. The leading uses within dressed stone, by tonnage, were in flagging (30%), curbing (23%), and ashlars and partially squared pieces (18%) (table 7).

Uses for the different varieties of dimension stone varied considerably. The major uses of granite sold or used in 2004, by tonnage, were in curbing (30%), rough blocks for building and construction (24%), monumental dressed stone (14%), and monumental rough stone (14%) (table 8). Primary uses of limestone, by tonnage, were in dressed stone other uses, including curbing, panels, veneer, tile, and unlisted and unspecified uses (43%), and rough blocks for building and construction (36%) (table 9). Primary uses of marble, by tonnage, were rough blocks for building and construction (86%), and dressed stone other uses, including slabs and blocks, flagging, monumental, panels and veneer, ashlars and partially squared pieces, tile, and unlisted uses (8%) and (table 10). Primary uses of sandstone, by tonnage, were in dressed stone for flagging (63%) and rough blocks for building and construction (20%) (table 11). Dimension slate sold or used by producers in the United States in 2004, by tonnage, was principally for flooring (45%), roofing (25%), and flagging (12%) (table 12).

Overall, the value of apparent consumption of dimension stone in the United States was estimated to be $2 billion in 2004; this was an increase of about 26% compared with that of 2003. Apparent consumption is defined as production plus imports for consumption minus exports. Value data are used in the apparent consumption calculation because tonnage data are not available for imports and exports. Also, changes in industry stocks are not considered because the data are not available.

Prices

The average 2004 value for dimension stone was $192 per metric ton; this was a decrease of 4% from that of 2003 based on the USGS canvass. The average unit values for different types of dimension stone were granite, $251 per ton; limestone, $168 per ton; marble, $163 per ton; sandstone, $118 per ton; and slate, $698 per ton. Available price data show considerable variation. Prices are substantially different not only for the kind of stone, but also for the appearance of the same kind of stone. Color, grain structure, and finish contribute significantly to price and marketability.

Foreign Trade

Exports.—In 2004, total exports of dimension stone increased in value slightly to about $63.7 million compared with those of 2003; granite accounted for 64% of the export value. The largest share of granite was exported to China (table 13). Although unreported, a significant amount of granite was probably reexported back to the U.S. market.

Imports.—The value of imports for consumption of dimension stone types increased in 2004 by 29% to $1.8 billion. Italy, which continued to be the major single source of granite, accounted for 29% of granite imports by value. Other important granite import sources included Brazil (26%), India (16%), and China (14%) (table 14). Italy also was a major source of rough and dressed marble imports (tables 15, 16). Duties on imported dimension stone are listed in table 2.

World Review

World dimension stone production, including the United States, was estimated to be approximately 89 Mt in 2004. Although there was probably some small-scale production in the majority of the world's nations, dimension stone was produced and officially reported in about 31 countries. The top five producing countries in 2004, in descending order by tonnage, were China, India, Italy, Iran, and Turkey, and these countries accounted for about 68% of the world's production. The United States ranked 11th in world production of dimension stone in 2004 (Internazionale Marmi e Macchine Carrara S.p.A., 2005§[1]).

Outlook

Dimension stone sales during the near term are expected to remain level. For residential and office building construction, growth in the use of dimension stone is expected in new home construction, new prestige markets for home improvement, as well as in renovations to attract and keep tenants. Conversely, some sectors of the stone industry report a lack of skilled labor at quarries and that, in recent years, competent masons have left the stone industry for more lucrative and higher paying building projects, such as courthouses, schools, and restorations.

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[1]A reference that includes a section mark (§) is found in the Internet Reference Cited section.

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TABLE 1
SALIENT U.S. DIMENSION STONE STATISTICS[1]

(Thousand metric tons and thousand dollars)

	2000	2001	2002	2003	2004
Sold or used by producers:[2]					
Quantity	1,320	1,220	1,260	1,340	1,460
Value	235,000	263,000	254,000	268,000	281,000
Exports, value	59,800	73,500	64,400	63,500	63,700
Imports for consumption, value	986,000	1,070,000	1,190,000	1,390,000	1,790,000

[1]Data are rounded to no more than three significant digits.

[2]Includes Puerto Rico and other U.S. possessions and territories.

TABLE 2
U.S. IMPORT DUTIES ON DIMENSION STONE

Tariff item	HTS[1] code	NTR,[2] January 1, 2004	Non-NTR,[2] January 1, 2004
Slate, rough blocks or slabs	2514.00.0000	Free	25% ad valorem.
Rough blocks or slabs of marble, travertine, other calcareous monumental or building stone:	2515.00.0000		
Marble and travertine:			
Crude or roughly trimmed	2515.11.0000	Free	$22.95 per cubic meter.
Marble, merely cut	2515.12.1000	do.	13% ad valorem.
Travertine, merely cut	2515.12.2000	3.0% ad valorem	50% ad valorem.
Other calcareous stone alabaster	2515.20.0000	do.	Do.
Rough blocks or slabs of granite, porphyry, basalt, sandstone, other monumental or building stone:	2516.00.0000		
Granite:			
Crude or roughly trimmed	2516.11.0000	Free	$8.83 per cubic meter.
Merely cut	2516.12.0000	2.8% ad valorem	60% ad valorem.
Sandstone:			
Crude or roughly trimmed	2516.21.0000	Free	$5.30 per cubic meter.
Merely cut	2516.22.0000	3.0% ad valorem	50% ad valorem.
Other monumental or building stone	2516.90.0000	do.	Do.
Setts, curbstones, flagstones	6801.00.0000	2.8% ad valorem	60% ad valorem.
Worked monumental or building stone::	6802.00.0000		
Tiles and cubes under 7 centimeters square, granules	6802.10.0000	4.8% ad valorem	40% ad valorem.
Other stone and articles with a flat or even surface:			
Marble, travertine, and alabaster:	6802.21.0000		
Travertine	6802.21.1000	4.2% ad valorem	50% ad valorem.
Other	6802.21.5000	1.9% ad valorem	13% ad valorem.
Other calcareous stone	6802.22.0000	4.9% ad valorem	50% ad valorem.
Granite	6802.23.0000	3.7% ad valorem	60% ad valorem.
Other stone	6802.29.0000	6.0% ad valorem	30% ad valorem.
Other:			
Marble, travertine, and alabaster:	6802.91.0000		
Marble:			
Slabs	6802.91.0500	2.5% ad valorem	15% ad valorem.
Other	6802.91.1500	4.9% ad valorem	50% ad valorem.
Travertine:			
Travertine articles of subheading 6802.21.1000 that have been dressed or polished, but not further worked	6802.91.2000	4.2% ad valorem	50% ad valorem.
Other	6802.91.2500	3.7% ad valorem	40% ad valorem.
Alabaster	6802.91.3000	4.7% ad valorem	50% ad valorem.
Other calcareous stone	6802.92.0000	4.9% ad valorem	Do.
Granite	6802.93.0000	3.7% ad valorem	60% ad valorem.
Other stone	6802.99.0000	6.5% ad valorem	40% ad valorem.
Worked slate and articles:	6803.00.0000		
Roofing slate	6803.00.1000	3.3% ad valorem	25% ad valorem.
Other	6803.00.5000	Free	Do.

[1]Harmonized Tariff Schedule of the United States.
[2]Normal trade relations.

TABLE 3
DIMENSION STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE[1]

State	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	40,200	$9,920	42,100	$10,200
Colorado	4,630	1,610	16,200	1,980
Georgia	114,000	22,700	146,000	22,100
Indiana	242,000	42,100	251,000	45,500
Kansas	15,300	1,640	13,900	1,730
Maryland	23,700	2,700	26,700	9,580
Massachusetts	81,000	11,300	81,700	11,600
Minnesota	15,500	11,900	21,600	12,400
Montana	14,300	2,590	13,900	2,550
New Mexico	56,900	2,590	57,000	2,430
New York	65,300	6,110	43,600	4,560
North Carolina	46,900	18,700	43,000	18,200
Ohio	29,900	4,960	37,700	5,100
Oklahoma	17,500	2,300	16,500	2,100
Pennsylvania	31,900	10,400	32,600	10,100
South Carolina	8,230	650	9,230	850
Texas	86,600	16,400	63,600	15,200
Vermont	102,000	26,700	100,000	30,600
Virginia	5,900	651	5,410	594
Wisconsin	101,000	19,700	232,000	23,800
Other[2]	235,000	52,800	206,000	49,600
Total	1,340,000	268,000	1,460,000	281,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes Alabama, Arizona, Arkansas, Connecticut, Idaho, Maine, Michigan, Missouri, New Hampshire, South Dakota, Tennessee, Utah, Washington, West Virginia, Puerto Rico, and other U.S. possessions and territories.

TABLE 4
DIMENSION GRANITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE[1]

State	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
California	18,300	$6,010	17,200	$5,800
Georgia	77,100	10,100	75,400	9,630
Massachusetts	81,000	11,300	81,700	11,600
South Carolina	8,230	650	9,230	850
Wisconsin	13,200	3,600	12,100	2,200
Other[2]	265,000	80,100	233,000	77,800
Total	463,000	112,000	429,000	108,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes Maine, Minnesota, Missouri, New Hampshire, New York, Oklahoma, North Carolina, Pennsylvania, South Dakota, Texas, Vermont, Virginia, and Puerto Rico and other U.S. possessions and territories.

TABLE 5
DIMENSION LIMESTONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE[1]

State	2003 Quantity (metric tons)	2003 Value (thousands)	2004 Quantity (metric tons)	2004 Value (thousands)
Indiana	240,000	$42,100	249,000	$45,400
Kansas	13,200	1,440	12,200	1,570
Other[2]	120,000	30,100	303,000	48,000
Total	373,000	73,700	564,000	95,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes Arkansas, California, Minnesota, Ohio, Oklahoma, Texas, and Wisconsin.

TABLE 6
DIMENSION SANDSTONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE[1]

State	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
New York	43,000	$4,740	41,300	$3,170
Pennsylvania	2,340	357	2,330	357
Other[2]	131,000	17,700	164,000	21,100
Total	176,000	22,800	208,000	24,700

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes Arizona, Arkansas, California, Colorado, Idaho, Kansas, Michigan, New Mexico, Ohio, Oklahoma, Utah, Virginia, West Virginia, and Wisconsin.

TABLE 7

DIMENSION STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE[1, 2]

	2003		2004	
Use	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	301,000	$42,100	414,000	$68,700
Irregular-shaped stone	171,000	19,800	77,100	10,100
Monumental	186,000	28,100	138,000	14,100
Other[3]	76,300	21,700	257,000	32,700
Dressed stone:				
Ashlars and partially squared pieces	143,000	29,100	104,000	17,500
Slabs and blocks for building and construction	13,000	3,730	15,900	6,900
Monumental	67,700	35,300	63,100	30,700
Curbing	128,000	21,700	130,000	21,500
Flagging	149,000	18,100	170,000	20,800
Flagging (slate)	2,280	825	1,240	245
Roofing slate	5,210	5,340	4,860	8,060
Structural and sanitary	2,340	2,670	2,370	2,710
Flooring slate	8,790	1,760	8,870	1,720
Other[4]	83,100	39,200	75,500	45,000
Grand total	1,340,000	269,000	1,460,000	281,000

[1]Includes Puerto Rico and other U.S. possessions and territories.

[2]Data are rounded to no more than three significant digits; may not add to totals shown.

[3]Includes flagging, exports, uses not specified, and uses not listed.

[4]Includes panels and veneer, tile, blackboards, exports, uses not specified, and uses not listed.

TABLE 8

DIMENSION GRANITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE[1]

	2003		2004	
Use	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	50,800	$9,900	103,000	$29,200
Irregular-shaped stone	29,300	967	9,870	1,140
Monumental	97,200	18,700	59,900	6,810
Other[2]	72,200	21,100	39,300	11,700
Dressed stone:				
Ashlars and partially squared pieces	3,270	1,010	3,690	1,550
Slabs and blocks for building and construction	751	751	1,640	808
Monumental	63,800	30,100	61,600	28,200
Curbing	128,000	21,600	129,000	21,400
Other[3]	17,800	7,480	20,900	7,070
Grand total	463,000	112,000	429,000	108,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes exports and uses not listed.

[3]Includes panels and veneer, tile, uses not specified, and uses not listed.

TABLE 9

DIMENSION LIMESTONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE[1]

Use	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	193,000	$25,400	201,000	$29,400
Irregular-shaped stone	10,000	980	13,500	1,290
Monumental	16,100	4,400	16,100	4,400
Other[2]	4,080	574	4,080	574
Dressed stone:				
Ashlars and partially squared pieces	64,900	14,800	65,800	10,700
Slabs and blocks for building and construction	9,370	1,770	11,500	2,290
Flagging	11,600	4,320	11,300	4,130
Other[3]	63,500	21,400	241,000	42,300
Grand total	373,000	73,700	564,000	95,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes exports and uses not listed.

[3]Includes curbing, panels and veneer, tile, uses not specified, and uses not listed.

TABLE 10

DIMENSION MARBLE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE[1, 2]

Use	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	20,900	$3,740	85,100	$6,880
Other[3]	13,000	2,500	5,170	837
Dressed stone:				
Slabs and blocks for building and construction	W	W	W	W
Monumental	W	W	W	W
Flagging	W	W	W	W
Tile	W	W	W	W
Other[4]	26,600	12,100	8,380	8,350
Grand total	60,500	18,400	98,700	16,100

W Withheld to avoid disclosing company proprietary data; included with "Dressed stone, other."

[1]Includes Puerto Rico.

[2]Data are rounded to no more than three significant digits; may not add to totals shown.

[3]Includes monumental, uses not specified, and uses not listed.

[4]Includes slabs and blocks, flagging, monumental, panels and veneer, ashlars and partially squared pieces, tile, uses not listed, and uses indicated by symbol W.

TABLE 11

DIMENSION SANDSTONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE[1]

Use	2003		2004	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Rough stone:				
Rough blocks for building and construction	29,900	$2,720	41,000	$2,990
Irregular-shaped stone	11,400	1,680	12,800	2,060
Other[2]	--	--	--	--
Dressed stone:				
Ashlars and partially squared pieces	15,400	3,060	14,500	2,960
Slabs and blocks for building and construction	2,490	746	2,490	746
Curbing	W	W	W	W
Flagging	111,000	10,600	132,000	13,300
Panels and veneer	907	300	907	300
Other[3]	4,660	3,720	4,160	2,260
Grand total	176,000	22,800	208,000	24,700

W Withheld to avoid disclosing company proprietary data; included with "Dressed stone, other." -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes flagging and uses not listed.

[3]Includes tile, curbing, exports, uses not specified, uses not listed, and uses indicated by symbol W.

TABLE 12

DIMENSION SLATE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY USE[1]

	2003		2004	
Use	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Flagging	2,280	$825	2,400	$436
Roofing	4,840	5,020	4,860	8,060
Structural and sanitary purposes	2,340	2,670	2,370	2,710
Flooring	8,790	1,760	8,870	1,720
Other[2]	191	932	1,080	774
Total	18,500	11,200	19,600	13,700

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes uses not specified, and uses not listed.

TABLE 13

U.S. EXPORTS OF DIMENSION STONE, BY TYPE[1]

(Thousand metric tons and thousand dollars)

Type	2003		2004		Major destination in 2004, percentage[2]
	Quantity	Value	Quantity	Value	
Marble, travertine, alabaster worked[3]	32	3,420	39	3,330	Canada, 60%.
Marble, travertine, crude or roughly trimmed	3	1,340	3	1,630	Canada, 40%.
Marble, travertine, merely cut, by sawing or otherwise[4]	6	935	3	1,400	The Bahamas, 20%.
Granite, crude or roughly trimmed	138	39,700	131	36,900	China, 55%.
Granite, merely cut by sawing or otherwise[4]	6	3,580	12	4,010	China, 20%.
Sandstone, crude or roughly trimmed	6	798	5	1,140	Canada, 88%.
Sandstone, merely cut, by sawing or otherwise[4]	5	1,560	6	1,580	Canada, 93%.
Slate, worked and articles of slate	NA	5,210	NA	5,760	The Bahamas, 43%.
Slate, whether or not roughly trimmed or merely cut[4]	NA	508	NA	454	Canada, 87%.
Other calcareous monumental or building stone; alabaster[5]	15	3,420	18	4,970	Canada, 81%.
Other monumental or building stone[6]	13	3,050	15	2,490	Canada, 81%.
Total	XX	63,500	XX	63,700	

NA Not available. XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]By value.

[3]Further worked than simply cut with a flat surface.

[4]Blocks or slabs.

[5]Crude, roughly trimmed, or merely cut into blocks or slabs. Other than marble and travertine (includes alabaster).

[6]Crude, roughly trimmed, or merely cut into blocks or slabs. Other than calcareous stone and alabaster, granite, sandstone, slate, dolomite, quartzite, and steatite.

Source: U.S. Census Bureau.

TABLE 14

U.S. IMPORTS FOR CONSUMPTION OF DIMENSION GRANITE, BY COUNTRY[1]

(Thousand dollars)

		Dressed								
			Worked granite							
				Cut to size[2]						
Country	Rough granite[3]	Simply cut[4]	Not cut to size[5]	Maximum 1.5 centimeters	1.5-7.5 centimeters	Monumental minimum 7.5 centimeters	Building minimum 7.5 centimeters	Other	Total worked	Total dressed
2003:										
Argentina	37	201	217	29	1,220	--	54	352	1,870	2,070
Brazil	6,600	16,700	35,900	4,960	89,700	58	2,740	25,700	159,000	176,000
Canada	4,230	1,050	182	1,950	12,500	7,790	13,400	9,820	45,600	46,600
China	3,470	6,000	3,420	13,600	23,200	3,340	7,080	19,300	69,900	75,900
Finland	10	--	13	15	143	--	--	117	288	288
India	3,890	7,660	11,200	10,000	45,100	5,920	4,250	19,400	95,900	104,000
Italy	4,800	17,500	41,400	10,700	115,000	209	8,840	39,200	215,000	233,000
Japan	--	--	--	--	22	11	--	--	33	33
Mexico	193	930	60	20	808	--	128	400	1,420	2,350
Norway	77	11	12	16	320	--	8	16	372	383
Portugal	144	35	10	133	119	--	6	109	377	412
Saudi Arabia	70	72	80	66	1,200	--	49	73	1,470	1,540
South Africa	2,450	311	129	9	2,580	--	38	119	2,880	3,190
Spain	720	2,240	3,370	637	11,600	--	1,420	3,600	20,600	22,900
Other	1,100	1,170	14,300	652	10,100	101	1,060	8,640	34,800	36,000
Total	27,800	53,900	110,000	42,800	313,000	17,400	39,000	127,000	650,000	703,000
2004:										
Argentina	55	159	228	119	1,900	--	76	157	2,480	2,640
Brazil	10,900	27,900	50,800	6,790	143,000	227	4,150	28,200	234,000	261,000
Canada	4,170	1,180	187	3,150	15,400	7,250	10,300	11,100	47,400	48,600
China	4,660	11,700	10,400	16,700	54,800	6,090	8,650	32,300	129,000	141,000
Finland	8	7	--	6	68	--	2	11	87	94
India	7,740	14,700	15,100	10,900	81,000	7,530	6,140	23,300	144,000	159,000
Italy	7,600	21,100	37,900	7,820	152,000	924	10,300	51,700	261,000	282,000
Japan	--	32	--	--	--	--	--	593	593	625
Mexico	407	1,550	26	19	404	--	136	632	1,220	2,760
Norway	351	14	--	--	126	--	5	21	152	166
Portugal	68	342	65	86	222	--	19	246	638	980
Saudi Arabia	255	33	46	67	1,510	--	35	123	1,780	1,810
South Africa	2,670	210	341	32	3,190	9	60	476	4,110	4,320
Spain	814	2,700	3,690	1,300	18,300	37	429	4,330	20,600	23,300
Other	1,120	2,160	17,800	854	23,500	16	2,570	9,350	54,100	56,300
Total	40,800	83,600	137,000	47,800	496,000	22,100	42,900	163,000	900,000	984,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]One or more faces worked more than simply cut.

[3]Normal quarry products. Includes crude or roughly trimmed and roughly cut by sawing or otherwise. Harmonized Tariff Schedule of the United States (HTS) codes 2516.11.0000, 2516.12.0030, and 2516.12.0060.

[4]Simply cut with a flat even surface. HTS code 6802.23.0000.

[5]Only one face worked more than simply cut. HTS code 6802.93.0010.

Source: U.S. Census Bureau.

TABLE 15

U.S. IMPORTS FOR CONSUMPTION OF MAJOR CATEGORIES OF DIMENSION MARBLE AND OTHER CALCAREOUS STONE, BY COUNTRY[1]

	Dressed							
	Marble, slabs[2]		Marble, other[3]		Other calcareous stone[4]		Rough marble[5]	
Country	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
2003:								
Brazil	3,020	2,650	193	135	1,320	1,100	57	44
China	10,200	4,950	28,100	18,700	26,000	17,700	627	433
France	326	375	470	905	14,200	18,200	12	31
Greece	5,480	5,840	10,100	7,140	8,600	2,130	2	3
India	1,630	1,470	4,040	5,210	18,200	3,930	263	155
Israel	1,600	1,370	4,450	4,360	37,500	12,400	173	136
Italy	50,000	57,600	62,500	70,500	133,000	53,300	1,440	1,900
Mexico	3,410	2,700	13,500	14,400	10,100	12,300	563	101
Portugal	1,890	1,090	2,170	1,900	10,400	7,230	83	63
Spain	12,500	9,830	32,900	25,500	75,100	53,700	815	644
Taiwan	366	373	2,240	3,430	592	431	84	83
Turkey	5,600	4,710	37,600	26,300	9,730	6,180	1,020	383
Other	5,820	4,290	14,300	13,900	43,700	27,100	1,320	888
Total	102,000	97,200	213,000	192,000	388,000	216,000	6,450	4,860
2004:								
Brazil	3,810	3,420	491	376	2,880	1,470	92	73
China	18,600	8,690	40,900	29,600	48,500	21,100	792	546
France	389	783	252	1,140	63,800	17,400	10	27
Greece	4,680	6,600	7,010	8,540	2,400	2,780	6	19
India	2,990	2,430	4,280	6,130	5,600	3,350	48	38
Israel	2,240	2,000	6,240	6,040	12,100	13,000	332	275
Italy	58,300	74,300	59,600	75,900	76,600	55,100	948	1,280
Mexico	2,040	1,360	10,900	11,700	10,500	9,210	132	138
Portugal	2,350	2,410	2,450	2,320	11,700	8,700	39	20
Spain	23,300	18,700	30,300	27,900	94,700	57,900	1,090	947
Taiwan	658	697	2,290	3,550	517	504	41	54
Turkey	8,010	6,240	35,400	25,600	25,900	11,600	425	314
Other	8,760	7,470	22,800	19,800	73,500	27,400	1,080	861
Total	136,000	135,000	223,000	219,000	429,000	230,000	5,030	4,590

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Worked more than simply cut with a flat surface. Harmonized Tariff Schedule of the United States (HTS) code 6802.91.0500.

[3]Merely cut by sawing or otherwise.

[4]Worked more than simply cut with a flat surface. Other than marble and travertine. HTS code 6802.92.0000.

[5]Simply cut by sawing or otherwise into rectangular blocks or slabs. HTS code 2515.12.1000.

Source: U.S. Census Bureau as modified by the U.S. Geological Survey.

TABLE 16

U.S. IMPORTS FOR CONSUMPTION OF DIMENSION STONE, BY TYPE[1]

Type		2003 Quantity	2003 Value (thousands)	2004 Quantity	2004 Value (thousands)	Major source for 2004, percentage[2]
Calcareous stone, other[3]	metric tons	28,300	$7,320	10,300	$7,130	Italy, 34%.
Marble and alabaster[4]	do.	18,700	11,000	19,200	15,000	Italy, 31%.
Sandstone, cut, by sawing or otherwise[5]	do.	1,250	869	1,290	798	India, 31%.
Slate, roofing	million square feet	11	6,610	15	7,000	China, 31%.
Slate, roughly trimmed or simply cut[5]	do.	15,400	6,260	14,100	4,880	China, 38%.
Slate, worked and articles of slate, and other[6]	do.	NA	71,900	NA	91,300	India, 42%.
Travertine, monumental or building stone and articles thereof[7]	do.	35,600	19,100	41,700	27,200	Turkey, 60%.
Travertine, worked monumental or building stone[8]	do.	97,100	45,300	114,000	61,700	Turkey, 58%.
Other stone, monumental or building stone[9]	do.	10,700	5,670	17,500	8,010	Mexico, 22%.

NA Not available.

[1]Data are rounded to no more than three significant digits. Does not include totals shown on tables 14 and 15.

[2]By value.

[3]Other than marble, travertine, and alabaster. Simply cut with a flat surface.

[4]Simply cut with a flat surface.

[5]Rectangular blocks or slabs.

[6]Other than roofing, including agglomerated slate.

[7]Simply cut with a flat surface. Other than tiles and granules.

[8]Dressed or polished but not further worked.

[9]Simply cut with a flat surface. Other than granite, calcareous stone, alabaster, slate, dolomite, quartzite, and steatite.

Source: U.S. Census Bureau.